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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/843,143	04/27/2001	Qun Zhao	01640219AA	7295
30743 7590 10/25/2007 WHITHAM, CURTIS & CHRISTOFFERSON & COOK, P.C. 11491 SUNSET HILLS ROAD SUITE 340 RESTON, VA 20190			EXAMINER ZHANG, JUE	
			ART UNIT 2838	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/843,143

Applicant(s)

ZHAO ET AL.

Examiner

Jue Zhang

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 2-4, 6-14 and 16-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 5, 15 and 20-23 is/are rejected.
- 7) ☒ Claim(s) 20-23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

This Office action is in answer to the response filed 8/22/2007. Claims 1-23 are pending, of which original claims 2-4, 6-14, 16-19 are withdrawn from consideration by the previous amendment, and claims 1, 5, 15, 20, and 22 are amended by the present amendment.

Claim Objections

1. Claims 20-23 are objected to under 37 C.F.R. 1.75(a) for lack of antecedent basis. The claims are lack of proper antecedence in the disclosure.

For example: Claim 1 recites the limitations "a steering branch having one rectifier, one winding, and a primary winding". Claims 20-22, the dependent claims of claim 1, recite the limitations "a winding", "a rectifier", and further recite the limitations of "said winding" "said rectifier". Claims 22 and 23 as dependent claim of claim 1 recite the limitations "a rectifier", "said rectifier". Claim 23 as dependent claim of claim 1 further recite the limitations "said center node", "said second inductor". However there is no limitation of "a center node", "second inductor" are claimed in claim 1 or claim 23. The above are but a few specific examples of indefinite and functional or operational language used throughout the claims, and are only intended to illustrate the extensive revision required to overcome claims objection under 37 C.F.R. 1.75(a) for lack of antecedent basis and the rejection under 35 USC 112, second paragraph. The above-mentioned corrections therefore, are in no way a complete and thorough listing of every

indefinite and functional or operational language used throughout the claims. Applicant's correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 20-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitations "a steering branch having one rectifier, one winding, and a primary winding". Claims 20-22, the dependent claims of claim 1, recite the limitations "a winding", "a rectifier", and further recite the limitations of "said winding" "said rectifier". Claims 22 and 23 as dependent claim of claim 1 recite the limitations "a rectifier" and "said rectifier". Claim 23 as dependent claim of claim 1 further recites the limitations "said center node", "said second inductor". However there no limitation of "a center node", "second inductor" are claimed in claim 1 or claim 23. It is unclear which rectifier the limitations "said winding", "said rectifier", "said rectifier", "said center node", "said second inductor" are refer to.

Therefore, the metes and bounds of the claims are unclear. Applicant's correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 5, 15, 20-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Mantov (US Patent No. 6377481, hereinafter '481).

For claim 1, '481 teaches a DC/DC converter for managing high voltage gain, the converter (Fig. 1, 8-10)(col. 5-6) comprising:

an input side having a high tap and a low tap (Fig. 1, 8-10);

an output side having a high tap and a low tap (Fig. 1, 8-10);

a converter circuit (600, 700, or 800) interconnecting said input side and said output side, said converter circuit including a primary winding (e.g., 12); and

a passive steering branch (Fig. 1, 8-10) having at least one rectifier (e.g., 30) and at least one winding (e.g., 626, 726, or 826) coupled to said primary winding, said steering branch interconnecting said input side with said output side (col. 5-6) (Fig. 1, 8-10).

For claim 5, '481 teaches the limitations of claim 1 as discussed above. It further teaches that said converter circuit is a boost converter, said steering branch includes a series connection of said rectifier and said winding, and wherein said winding is connected to said high tap of said input side, and said rectifier is connected to said high tap of said output side (col. 5-6) (Fig. 1, 8-10).

For claim 15, '481 teaches the limitations of claim 1 as discussed above. It further teaches that

said converter circuit is a boost converter (col. 5-6) (Fig. 1, 9), and

wherein said steering branch includes a capacitor (e.g., 20)(col. 5-6) (Fig. 1, 9) connected to said rectifier (e.g., 30)(Fig. 1, 9), said capacitor having an input node and an output node, and said rectifier having an input node and an output node (col. 5-6) (Fig. 1, 9), further comprising:

a center node joining a first inductor (e.g., 26, 626, 726, or 826)(Fig. 1, 8-10), a second inductor (e.g., 12), and a switch (e.g., 18)(Fig. 1, 8-10)(col. 5-6), said first inductor being connected to said high tap of said input side, said second inductor being connected to an output rectifier (e.g., 16), said output rectifier being connected to said high tap of said output side (Fig. 1, 8-10).

For claim 20, '481 teaches the limitations of claim 1 as discussed above. It further teaches that said converter is a boost converter, wherein said steering branch includes a rectifier (e.g. 30) in series with a winding (e.g., 26, 626, 726, or 826) and a capacitor, and wherein said capacitor is connected to said winding at an output node of said capacitor (Fig. 1, 8-10).

For claim 21, 481 teaches the limitation of claim 20 as discussed above. 481 further teaches that said winding (626, 826)(Fig. 8, 10) is connected to said high tap of said input side (Fig. 8, 10), and said rectifier (30) is connected to said high tap of said output side (Fig. 8, 10).

For claim 22, '481 teaches the limitations of claim 1 as discussed above. It further teaches that said converter circuit is a boost converter, and wherein said steering branch includes a capacitor (e.g., 20) connected to a rectifier (e.g., 16, or 30), said capacitor having an input node and an output node, and said rectifier having an input node and an output node, and wherein said rectifier of said steering branch interconnects a center node with a second inductor (e.g., 12), and said capacitor of said steering branch interconnects said high tap of said input side with both said second inductor and said rectifier of said steering branch e.g., the cap 20 is interconnected to the high tap of the input side through both the second inductor 26, 626, 726, or 826 and diode 30)(Fig. 1, 8-10).

For claim 23, 481 teaches the limitation of claim 1 as discussed above. 481 further teaches that said converter circuit is a boost converter (Abstract), and wherein said steering branch includes a capacitor (20) connected to a rectifier (e.g., 16 or 30), said capacitor having an input node and an output node, and said rectifier having an input node and an output node (Fig. 1, 8-10), and wherein said rectifier of said steering branch (30) interconnects a center node (e.g., the output node)(Fig. 1, 8-10) with a second inductor (e.g., 12 or 26, 626, 726, 826), and said capacitor (20) of said steering branch interconnects both of said low tap of said input side and said low tap of said output side (i.e., the low taps of both input and output side are connected directly)(Fig. 1, 9) with both of said rectifier (30) of said steering branch and said second inductor (e.g., 20 is interconnected with 12 through 16)(Fig. 1, 8-10).

Response to Amendment

6. Applicant's arguments filed on 8/6/2007 have been fully considered but they are not moot in view of a new ground of rejection. Amended claim 1 includes limitation "a primary winding" which is a new issue.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jue Zhang whose telephone number is 571-270-1263. The examiner can normally be reached on M-Th 7:30-5:00PM EST, Other F 7:30AM-5:00PM EST.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, HEZRON WILLIAMS can be reached on 571-272-22082204. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JZ


BAO Q. VU
PRIMARY EXAMINER